

# Kansas Library Association College and University Libraries Section Proceedings

Volume 10  
Number 1 *Sharing the Impact of Academic  
Libraries*

Article 3

2020

## Self-Service Technology and the Impact on Academic Libraries: A Perspective Piece by an Access Services Specialist

Crystal Hutchinson  
*Fort Hays State University*, [cbhutchinson@fhsu.edu](mailto:cbhutchinson@fhsu.edu)

Follow this and additional works at: <https://newprairiepress.org/culsproceedings>



Part of the [Educational Assessment, Evaluation, and Research Commons](#), [Educational Methods Commons](#), [Higher Education Commons](#), [Information Literacy Commons](#), [Other Education Commons](#), [Scholarly Communication Commons](#), [Scholarly Publishing Commons](#), and the [Science and Technology Studies Commons](#)



This work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 4.0 License](#).

### Recommended Citation

Hutchinson, Crystal (2020) "Self-Service Technology and the Impact on Academic Libraries: A Perspective Piece by an Access Services Specialist," *Kansas Library Association College and University Libraries Section Proceedings*: Vol. 10: No. 1. <https://doi.org/10.4148/2160-942X.1079>

This Article is brought to you for free and open access by the Conferences at New Prairie Press. It has been accepted for inclusion in Kansas Library Association College and University Libraries Section Proceedings by an authorized administrator of New Prairie Press. For more information, please contact [cads@k-state.edu](mailto:cads@k-state.edu).

---

## Self-Service Technology and the Impact on Academic Libraries: A Perspective Piece by an Access Services Specialist

### Abstract

Abstract

Self service technology (SST) is inundating the library world with more efficient forms of service for the library user experience. There are different types of SST and each type creates challenges and opportunities in the academic library. This multi-varied approach provides quality support to users who are unfamiliar with the technology, and offers time expediency to those who are adept at using SST. This persuasive paper will show what Kansas academic libraries currently have in the form of SST and encourage libraries to adopt new methods of service. The goal is to get you excited about SST and relieve any apprehension about implementing new technology in your academic library.

Keywords: self-service technology, SST, academic libraries, Kansas libraries, human interaction, quality customer service, ROI, return on investment, community analysis

### Keywords

Self-service technology, SST, Academic Libraries, Kansas Libraries, Human Interaction, Quality Customer Service, ROI, Return on Investment, Community Analysis

## Introduction

In the academic library environment, self-service technology (hereafter SST) is a method of providing service to the user through the use of technology, rather than through the librarian as a primary facilitator. While SST implies that a user experiences the technology alone, librarians are capable of providing quality customer service in a mediator fashion and may even demonstrate the self-service technology the first time a user experiences the service. Incorporating SST into academic library settings provides the user with several service options. The user has the opportunity to enjoy library services on their own rather than utilize the academic staff, or use a combination of the two services. Academic libraries have long aligned with the campus culture of student-focused services and meeting user expectations. The dean of Forsyth Library at Fort Hays State University, Deb Ludwig, explains that quality customer service is a campus expectation. Ludwig went on to state, "As our faculty have quickly moved online, we have needed to assure them that we are right there with them ready to join them in their online class or deliver essential resources online" (D. Ludwig, personal communication, May 25, 2020). Self-service technology impacts academic libraries by creating outcomes where the user may utilize the library in both a self-service and a full-service situation. This creates more satisfaction for the user because of the freedom of choice to use SST or consult with a librarian. It creates more sustainability in library services by allowing users to complete tasks that are easy to do alone, such as printing a paper, so that library employees may work on other aspects of library service, such as outreach, marketing, or daily maintenance of the library. Librarians need to remain current on library trends and accept new technology as an opportunity to learn 21<sup>st</sup>-century skills.

## Background

Fort Hays State University, FHSU, has an on-campus student population of 4,486 in Fall 2019. The faculty and staff population is 999.25, of which Forsyth Library has 18 employees, including the faculty librarians and the dean (Fort Hays State University, 2020). FHSU also serves the city of Hays, with a population of 20,744 in the community (U.S. Census Bureau, 2019).

In June of 2018, Forsyth Library at FHSU began transitioning the library materials into RFID (radio frequency identification) format. The initial purpose was to maintain the retention of library materials, but a secondary opportunity presented itself. A self-checkout station will allow Forsyth Library to offer an independent service. This happened at nearly the same time that the university created printer stations at several locations across campus, of which 3 printers are located in Forsyth Library. The "TigerPrint" stations allow students to swipe their card and print materials at the printers without human interaction. Forsyth Library student workers transitioned from accepting cash and printing materials for users to assisting with troubleshooting issues the user may have with the printers, as well as selling vouchers to add more money to the user's printing account. In an academic library, incorporating SST, such as TigerPrint, caused the student worker's duties to decrease in regards to handling money and printing. The service morphed into a different form of service, training users to upload documents to TigerPrint and release print jobs with their university cards. The challenge in the beginning, as it often is with new or updated technology is the initial training of a massive amount of people on the new system. Once the training takes place, the amount of maintenance involved is far less than the previous workflow. It is becoming apparent that SST is impacting the library and if planned correctly, it is an exciting opportunity to implement new experiences for the community.

## History

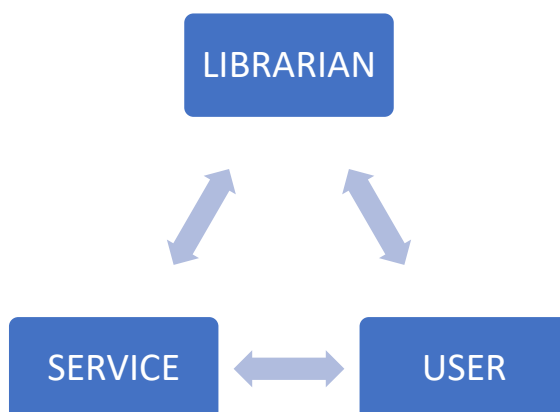
In 1996, Chang and Hsieh published an article addressing customer involvement with library services. They considered a continuum of involvement with 'high', 'medium', and 'low' involvement. The high involvement was "identified as those who use services which require that they actively participate in the service process, interacting to a high degree with the librarians, the collections, and the facilities" (Chang & Hsieh, 1996, p. 19). Some high involvement that Chang and Hsieh listed are database searching, interlibrary loans, and reference consulting. Moving into modern-day technology allows library services the opportunity to change the level of customer involvement. For example, users at Forsyth Library access the databases through the library website making it accessible from any location, as long as they log in with their student account. Users also use the website to create an interlibrary loan account and to make requests for materials. They only need to come into the library when physical materials arrive for pickup. There is no longer a specific reference desk in Forsyth Library. Instead, users can come into the building, or they can call, email, and use the "Ask a Librarian" chat feature on the website. Therefore, the impact on modern users has turned Chang and Hsieh's high involvement services of database searching, interlibrary loans, and reference consulting into a medium to low involvement service.

In 1995, Mardikian discussed shifting from full service to self-service models. Mardikian advocates for self-service by stating, "Automating tasks that were formerly performed by staff members is an important way to improve productivity and efficiency, reduce expenses, and allow libraries to handle large numbers of circulations without increasing the number of staff members" (Mardikian, 1995, p. 20). In our current climate, these issues remain important to academic libraries.

Traditional methods of library service in an academic library assume that the user comes to the librarian with a need, and the librarian provides this service to the user.



A more contemporary library shows that SST provides the user with a service and the librarian is still available, if necessary. There are many instances when a user may come to the library to use services without ever speaking to a person, or a user decides to use library services from their own home. The important thing to remember is that nothing is taken away from the equation. The user is still able to receive a service from the librarian if they choose.



#### Methods

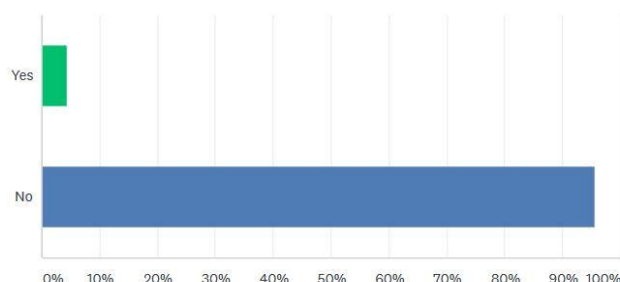
The first step to address academic libraries in Kansas is to determine how many libraries use the most common forms of SST. A survey was sent to all academic librarians on the Kansas Library Association College and University Section (CULS) listserv. Twenty-three Kansas academic librarians provided quantitative results. The types of academic libraries represented in this survey are: universities (9), community colleges (5), special libraries (3), and unknown status academic libraries (6). The unknown status indicates that the academic library did not indicate their type of academic library institution. For this survey, the questions addressed self-checkout, equipment/technology lockers, printer stations, interlibrary loan, online fine/fee payment, and the online public access computer (OPAC). All the responses were from 23 separate libraries, and a breakdown of the demographic survey results are located in the Appendix.

This survey helped to determine whether Kansas academic libraries are offering certain SST, but not other types. For example, the first survey question notes that libraries do not tend to have self-check stations for users to check out materials. Only one out of the responders offer self-check (see Figure 1).

**Figure 1**

Does your library have self-checkout of library materials as an option?

Answered: 23 Skipped: 0

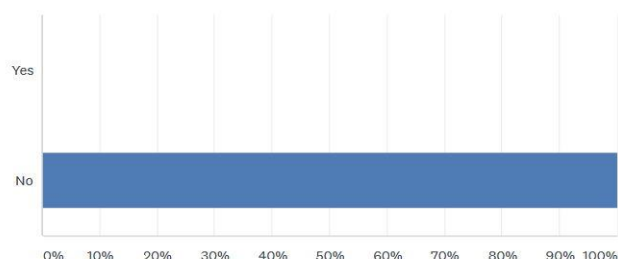


Another form of SST is to provide checkout of equipment or technology through a locker, or kiosk, that allows the user access to materials without human interaction. This is typically accomplished by scanning a university ID or student ID card. The survey indicates that 100% of surveyed academic libraries do not provide equipment checkout SST (see Figure 2).

**Figure 2**

Does your library have lockers that checkout equipment/technology without human interaction? (Ex. Laptop locker that allows students to use their card to check out a laptop)

Answered: 23 Skipped: 0

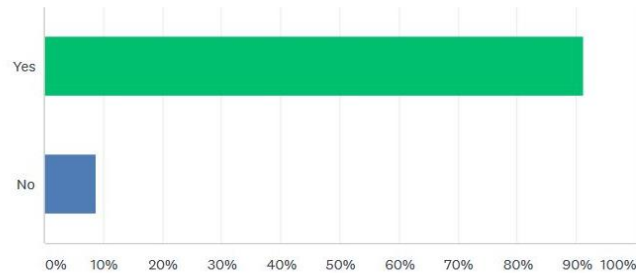


The third question reveals the second most popular type of SST in academic libraries with 21 of 23 respondents using printer stations that users can access without support (see Figure 3). Oftentimes an institution will have a technology department that creates printer stations around campus. The academic library is then in charge of maintaining and troubleshooting the printer station that is located in the library. Micaela Ayers, the director of Libraries & Archives at Butler Community College in El Dorado, Kansas, states, "The college is in charge of printers and enabled payment and SST a year ago with no problems other than the occasional 'I don't have any money to put into my account,' at which point the user sought our help and we gave them copies for free" (M. Ayers, personal communication, May 25, 2020).

**Figure 3**

Does your library have printer stations that users may use to print materials without human interaction?

Answered: 23 Skipped: 0



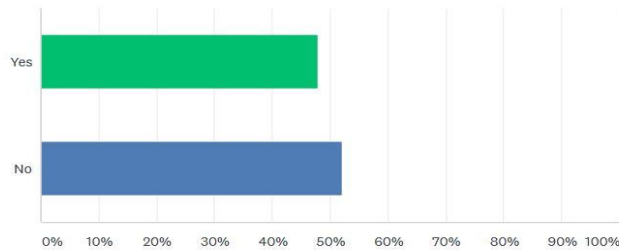
ANSWER CHOICES	RESPONSES	
Yes	91.30%	21
No	8.70%	2
<b>TOTAL</b>		<b>23</b>

When it comes to interlibrary loan (ILL) libraries are split on whether to maintain human involvement with this service versus allowing it to become a self-service, as more than half of all respondents did not provide self-service ILL (see Figure 4). Interlibrary loan was at one time considered to be a service that only the librarian could provide to the user. This process required the user to physically approach the circulation desk or call into the library with the title and information of the item requested. The advent of SST made it possible for libraries to utilize software that allows users to create an interlibrary loan account and make requests. It is possible to have an unmediated workflow that allows the request to go directly to the library lender. There is also the option for mediation so that the librarian may check that the library does not own the item and verify that the item is available at another location. It also prevents users from making a large number of requests. This form of mediated SST is an example of how it is a beneficial opportunity for the users and does not become a serious challenge to the library. The ROI, or return on investment, benefits both parties. The user does not have to walk into the library to set up an account and make requests in person. Also, the librarian does not relinquish full control over what the library is requesting from other libraries and the amount being requested, which has the potential to affect the library budget.

**Figure 4**

Does your library allow users to create their own interlibrary loan account and make interlibrary loan requests? (can be mediated or unmediated)

Answered: 23 Skipped: 0



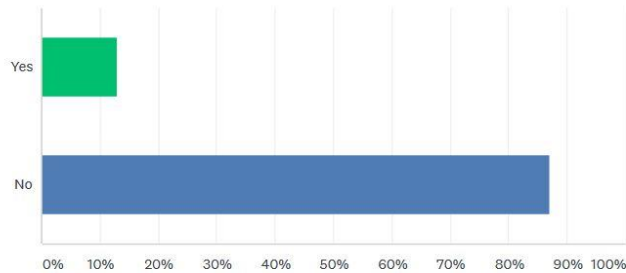
ANSWER CHOICES	RESPONSES	
Yes	47.83%	11
No	52.17%	12
<b>TOTAL</b>		<b>23</b>

Question 5 indicates that three of the respondents offer online payment for fines, fees, and other costs users incur at the academic library (see Figure 5). One possibility for this low percentage of adopters of this SST may be tied to the fact that academic payments typically go through the main department such as student fiscal services. It is common for academic libraries to have monetary payments submitted through a software program and allocated to the library's account. In order to establish an SST to accept online payments a complicated workflow must be established to resolve both the academic library account and the university account; therefore, this form of SST is not often available at the academic libraries at this time.

**Figure 5**

Does your library offer online fee/fine payment?

Answered: 23 Skipped: 0



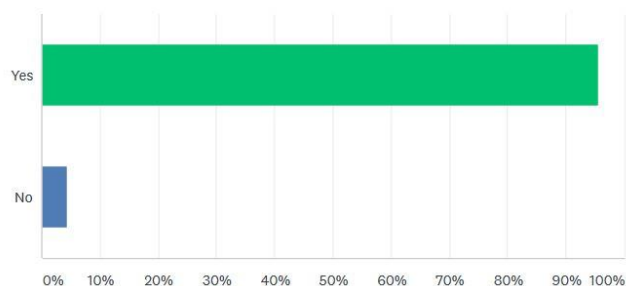
ANSWER CHOICES	RESPONSES
Yes	13.04% 3
No	86.96% 20
TOTAL	23

The final quantitative question regards whether or not a library user has access to an OPAC. The survey indicates that all but one of the respondents have an OPAC. This is clearly the most common type of SST in Kansas academic libraries (see Figure 6). At this point, providing an OPAC is no longer a complicated affair. At one time, having an OPAC meant that librarians would need to show users how to open a browser and possibly even use a mouse at a stand-alone computer. This form of SST is an indicator that as users become familiar with different types of technology, they will consider it to be a normal part of 21<sup>st</sup>-century library services.

**Figure 6**

Does your library have an OPAC(online public access catalog)?

Answered: 23 Skipped: 0



ANSWER CHOICES	RESPONSES
Yes	95.65% 22
No	4.35% 1
TOTAL	23

### Challenges

Potential challenges that librarians may experience may result from personal bias. Encourage librarians that are not as technologically savvy to embrace SST and understand that it will not eliminate librarian staff positions for three very important reasons. First, there will always be users that need training on SST the first time a user experiences the technology, and sometimes several times after that. Secondly, there will be users who simply prefer not to use SST. Finally, "human error" is a familiar term, but technology has errors as well. Anything from network connecting issues to printer jams makes library staff members just as important as they have ever been in a library setting.

Academic libraries are often faced with an expectation to be more efficient on limited expenses. Subscriptions to materials and the cost to provide services to the public raise in price over the years, while budgets tend to stay the same. Self-service technology will allow libraries to continue to provide quality service when there is uncertainty about future funding.

Virginia Shaffer, the director of the library at Allen Community College in Iola, Kansas, states, "I think that my biggest concern when it comes to SST is that they would not be utilized enough to be worth installing the SST" (V. Shaffer, personal communication, May 26, 2020). Making sure there is an ROI is a very practical and common concern for academic libraries. Much like the earlier statement about having an opportunity to benefit both the librarian and the user for interlibrary loan, any future investment needs to have proven benefits for both parties. When Forsyth Library added RFID tags to all the physical items in the library, the primary benefit was materials retention, with inventory and eventual self-checkout as additional benefits. Now the library is working towards a more self-sufficient environment to make users more comfortable having physical distance while at the library. Therefore, the library is currently in the process of determining which self-checkout machines will be most appropriate with the current software. As a result, these checkout machines will benefit the user. There are many types of SST that an academic library can employ, but if it is not going to be utilized, then it defeats the purpose of having invested in the technology. Forsyth Library is aware that the public library in Hays has gone to fully self-checkout materials. There are also self-checkout stations at the most popular retail markets in Hays, such as Walmart, Dillons, and Home Depot. A community analysis, and more importantly a campus-wide analysis will help determine the ROI of a service such as this.

### Conclusion

Meuter states, "The introduction of self-service technologies (SSTs) into the service encounter necessitates research to better understand customers' attitudes toward service providers and technologies, and their intentions to use technology-based service delivery systems" (Meuter, Ostrom, Roundtree, & Bitner, 2000, p.50).

Self-service technology offers freedom for the user and supports the sustainability of the library. This is the future of academic libraries. Often a new type of service or method is not incorporated in an academic setting until it can conclusively be proven that there will be an ROI that benefits all parties. New SST services can be expedited by having librarians perform a community analysis and research current library trends. In the current world climate of physical distancing and offering services in remote locations, SST needs to increase in the state of Kansas. Future research will show more academic libraries transitioning to other forms of SST. This is an exciting time to be a librarian offering multi-varied approaches to academic library services. There will be more 21<sup>st</sup>-century opportunities to access academic resources with self-service technology and now is the time to embrace it.



#### References

- Ayers, M. (2020, May 25). Email Interview. (C. Hutchinson, Interviewer)
- Chang, P., & Hsieh, P. (1996). Customer involvement with services in public libraries. *Library Review*, 45(8), 17-24.
- Chang, P., & Hsieh, P. (1996). Customer involvement with services in public libraries. *Library Review*, 45(8), 17-24. doi:<http://dx.doi.org/10.1108/00242539610131599>
- Curran, J., Meuter, M., & Surprenant, C. (2003, February). Intentions to use self-service technologies: A confluence of multiple attitudes. *Journal of Service Research*, 5(3), 209-224. doi:10.1177/1094670502238916
- Fort Hays State University. (2020, May 26). *Fort Hays State University Quick Facts 2019-2020*. Retrieved from FHSU website: <https://www.fhsu.edu/about/QuickFacts/>
- Ludwig, D. (2020, May 25). Email interview. (C. Hutchinson, Interviewer)
- Mardikian, J. (1995, April). Self-service charge systems: Current technological applications and their implications for the future library. *Reference Services Review*, 23(4), 19-38.
- Mardikian, J. (1995, April). Self-service Charge systems: Current technological applications and their implications for the future library. *Reference Services Review*, 23(4), 19-38.
- Meuter, M., Ostrom, A., Roundtree, R., & Bitner, M. (2000, July). Self-service technologies: Understanding customer satisfaction with technology-based service encounters. *Journal of Marketing*, 64, 50-64. doi:<http://dx.doi.org/10.1509/jmkg.64.3.50.18024>
- Meuter, M., Ostrom, A., Roundtree, R., & Bitner, M. J. (2000, July). Self-service technologies: Understanding customer satisfaction with technology-based service encounters. *Journal of Marketing*, 64, 50-64.
- Shaffer, V. (2020, May 26). Email interview. (C. Hutchinson, Interviewer)
- United States Census Bureau. (2020, May 26). *Quick Facts*. Retrieved from United States Census Bureau: <https://www.census.gov/quickfacts/fact/table/hayscitykansas>

## Appendix

### Full Survey Results Including Demographics

Question 1:

Does your library have self-checkout of library materials as an option?

Yes – 1 Unknown Academic Library

No – 9 Universities, 5 Community Colleges, 3 Specials, and 5 Unknown Academic Libraries

UNIVERSITY										
COMMUNITY COLLEGE										
SPECIAL ACADEMIC LIBRARY										
UNKNOWN ACADEMIC LIBRARY										

Question 2:

Does your library have lockers that checkout equipment/technology without human interaction?

Yes – 0 Libraries

No – 9 Universities, 5 Community Colleges, 3 Specials, and 6 Unknown Academic Libraries

[illegible]

Question 3:

Does your library have printer stations that users may use to print materials without human interaction?

Yes – 8 Universities, 5 Community Colleges, 3 Specials, and 5 Unknown Academic Libraries

No – 1 University and 1 Unknown Academic Library

[illegible]

Question 4:

Does your library allow users to create their own interlibrary loan account and make interlibrary loan requests?

Yes – 7 Universities, 0 Community Colleges, 2 Specials, and 3 Unknown Academic Libraries

No – 2 Universities, 5 Community Colleges, 1 Special, and 3 Unknown Academic Libraries

[illegible]

Question 5:

Does your library offer online fee/fine payment?

Yes – 3 Universities

No – 6 Universities, 5 Community Colleges, 3 Special, and 6 Unknown Academic Libraries

UNIVERSITY										
COMMUNITY COLLEGE										
SPECIAL ACADEMIC LIBRARY										
UNKNOWN ACADEMIC LIBRARY										

Question 6:

Does your library have printer stations that users may use to print materials without human interaction?

Yes – 8 Universities, 5 Community Colleges, 3 Specials, and 6 Unknown Academic Libraries

No – 1 University

UNIVERSITY										
COMMUNITY COLLEGE										
SPECIAL ACADEMIC LIBRARY										
UNKNOWN ACADEMIC LIBRARY										